

THREE NEW SPECIES OF HELICONIA (MUSACEAE)  
FROM COSTA RICA

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After completing a revision of the genus Heliconia in Middle America, two collecting trips were taken to Central America, 1968 and 1970. The main purpose of these trips was to collect specimens of the genus Heliconia. These rather large and showy plants are not frequently collected, primarily because of their size. As a result of studies made on these collections, three new species of Heliconia found in Costa Rica are herein described.

1. Heliconia beckneri R. R. Smith, sp. nov.  
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Planta musoidis, 3-4 m. alta. Folia longe petiolata; petioli ca. 35 cm. longi; lamina elliptica-ovata, ca. 1 m. longa, 20 cm. lata, utrinque viridis, glabra. Caulis et petiolus maculis marroninis. Inflorescentia ca. 37 cm. longa, erecta; pedunculata breviter; rhachi flexuoso et torsivo. Bracteeae 7-11, citrinae, glabrae, ovatae-lanceolatae, aliquantum profundis cymbiformibus. Bracteeae infernae 29 cm. longae; internodiis 2-2.5 cm. Bracteeae internaes florales numerosae, conspicuae, membranaceae, lanceolatae, 5.5 cm. longae, 3 cm. latae. Flores multi in bractearum axillis, virides, basis flavo-virens. Perianthium 5 cm. longum, glabrum vel sparse prope marginem purberulum. Pedicellus 0.5 cm. longus, albus, glabrus.

Large, musoid plants, 3-4 m. tall. Leaves 6-8 per stem; leaf-blades ca. 1 m. long, broadly elliptic-ovate, apex acuminate, base slightly acuminate; upper and lower surfaces green; petiole ca. 35 cm. long. Stem and petioles with maroon blotches. Inflorescence ca. 37 cm. long, erect; peduncle short; rachis flexuosed, spiralled, 1 cm. thick at base, glabrous. Fertile branch-bracts 7-11, lemon-yellow, glabrous, ovate-lanceolate, rather deeply boat-shaped. Lower branch-bracts 29 cm. long, ca. 4 cm. side-width; internode between lower branch-bracts 2-2.5 cm. Floral-bracts numerous, conspicuous, whitish to transparent turning brown with age, lanceolate, 5.5 cm. long, 3 cm. wide, glabrous and apparently persistent. Flowers many per branch-bract, green with yellow-green base, glabrous except for slight pubescence on margin of sepals; perianth 5 cm. long; pedicel 0.5 cm. long, white, glabrous. Fruit not examined.



Fig. 1. Holotype of H. beckneri (FLAS).

Type: COSTA RICA: PROV. SAN JOSE: on slope along roadside, ca. 15 km. n. of San Isidro del General, alt. 5,800 ft., 14 April 1968, R. R. Smith 2317 (Holotype: FLAS) (Fig. 1).

Distribution: Infrequent on disturbed slope in full sun near road in rocky, clay soil at elevation of about 5,800 feet.

This species grows at an altitude higher than any other Heliconia species examined. It shows some affinity to H. latispatha by having the spiral characteristic of the inflorescence. It is named for Mr. John Beckner, a Florida botanist, who first introduced the genus Heliconia to the author.

2. Heliconia clinophila R. R. Smith, sp. nov.

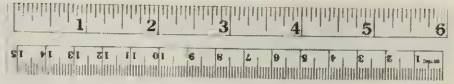
Planta gracilis, 2.5-3 m. alta. Folia 70-85 cm. longa, 15-18 cm. lata; pagina supera atroviridis, pagina inferna pallida viridis. Inflorescentia 18-25 cm. longa, erecta, breviter pedunculata. Rhachi flexuoso, flavo-virenti, glabra. Bracteeae 4-10, citrinae, glabrae, distichae, lanceolatae, margine plicato-extrinseco. Bracteeae internae florales 10, pallidae, membranaceae, ovatae, glabrae, 2.5 cm. longae, ca. 1.2 cm. latae. Flores in bractearum axillis 10, lutei, glabri. Perianthium 4-4.5 cm. longum, glabrum. Pedicellus 1.5 cm. longus, glabrus.

Slender plant, 2.5-3 m. tall; musoid habit. Leaves 2-3 per stem; leaf-blade elliptic-ovate, 70-85 cm. long, 15-18 cm. wide, apex attenuate, base obtuse and often unequal; upper surface dark green, lower surface pale green; petiole 22-30 cm. long. Inflorescence 18-25 cm. long, erect; peduncle short, 2-3 cm. long, yellow-green; rachis flexuosed, not spiralled, yellow-green, glabrous. Branch-bracts 4-10, lemon-yellow, glabrous, arranged distichously, lanceolate, with margins folding outward near base, shallow boat-shaped. Lower branch-bracts 15 cm. long, 1.8-2 cm. side-width; internode between lower branch-bracts 2-2.5 cm. Floral-bracts ca. 10, transparent, ovate with acuminate apices, 2.5 cm. long, 1.2 cm. wide, glabrous, persistent. Flowers ca. 10 per branch-bract, yellow with greenish-yellow apices, glabrous; perianth 4-4.5 cm. long, glabrous; pedicel 1.5 cm. long, glabrous. Ovary green, subglobose, glabrous, 1.0 cm. wide, 1.2 cm. long.

Type: COSTA RICA: PROV. HEREDIA: ca. 7.2 km. n. of Vara Blanca de Sarapiquí, alt. 5000 ft., 4 April 1968, R. R. Smith 2207 (Holotype: FLAS; Isotype: GH, MO, US) (Fig. 2).

Distribution: Occasional along roadside on steep slopes of cleared forest in shaded areas at 5000 ft. altitude.

The outstanding feature of this species is the lemon-yellow inflorescence which has the shape of a distichous candelabrum. In



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Heliconia clinophila R.S. Smith sp. nov.

Plant ca. 1-2 m. tall, extending out horizontally from steep slope; inflorescence erect, distichous; branch-bracts yellow; flowers yellow with greenish-yellow apices; on steep, wet slope near waterfall; ca. 7.2 km. n. of Vasa Blanca de Sarapiquí, alt. 5,000 ft.,

Prov. Heredia, COSTA RICA

coll. R.S. Smith, J. Beckner & J. Hall 2297  
det. R.S.S. 4 April 1968

Fig. 2. Holotype of H. clinophila (FLAS)

the area where these plants are found the vegetative portions of the plant extended outward from the steep slope with its inflorescence curving upward.

Additional specimens examined:

COSTA RICA: PROV. HEREDIA: on steep, moist slope near waterfall, ca. 7 km. n. of Vara Blanca de Sarapiquí, alt. 5000 ft., 29 Dec. 1970, R. R. Smith 2561, 2562 (FLAS).

3. Heliconia secunda R. R. Smith, sp. nov.

Planta musoidis, 4-5 m. alta. Inflorescentia ca. 43 cm. longa, pendula; pedunculata rubra, ca. 3.5 cm. longa. Rhachi torsivo, rubra, glabra. Bracteae secundae, 9-11, rubrae, lanceolatae, vadosae. Bracteae infernae 14 cm. longae. Bracteae internae florales ca. 8, flavidae albae, lanceolatae, 5-5.5 cm. longae, persistentiae. Flores in bractearum axillis ca. 8, lutei, glabri. Perianthium 5 cm. longum. Pedicellus 1.5 cm. longus, viridis citrinus.

Large plant 4-5 m. tall; musoid habit. Leaf-blade broadly oblong, 80-110 cm. long, 25-35 cm. wide, apex acuminate, base obtuse and unequal; upper surface dark green, lower surface green; petioles 55-110 cm. long. Maroon blotches on stem, petiole and midrib. Inflorescence ca. 43 cm. long, pendent. Branch-bracts extend outward from one side (second). Branch-bracts 9-11, red, glabrous, lanceolate, shallow. Lower branch-bracts 14 cm. long, 3 cm. side-width. Floral-bracts ca. 8 per branch-bract, yellowish-white, persistent. Flowers ca. 8 per branch-bract, yellow, glabrous; perianth 5-5.5 cm. long; pedicel 1.5 cm. long, light yellow-green. Fruit not seen.

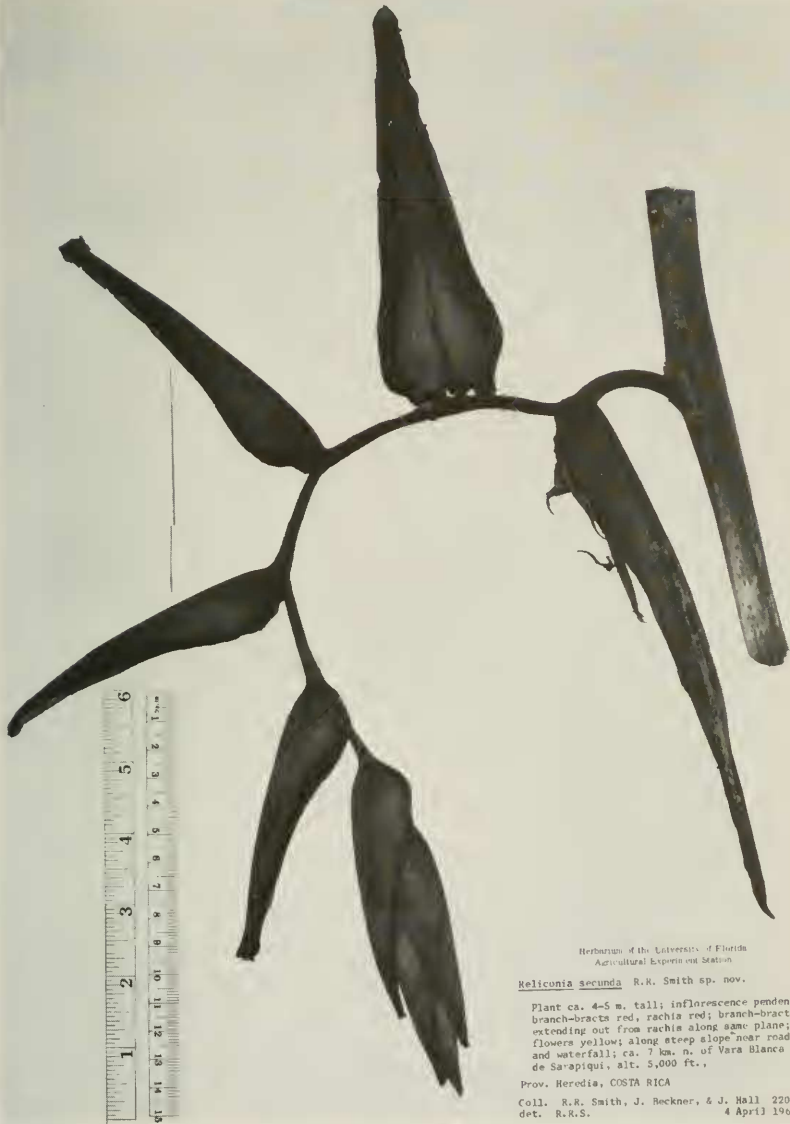
Type: COSTA RICA: PROV. HEREDIA: along steep slope near road and waterfall, ca. 7 km. n. of Vara Blanca de Sarapiquí, alt. 5000 ft., 4 April 1968, R. R. Smith 2206 (Holotype: FLAS; Isotype: GH, MO, US) (Fig. 3).

Distribution: Infrequent on moist slopes in shaded areas of cloud forest near waterfall, approximately 500 feet altitude.

This is the only species of Heliconia with a secund inflorescence.

Additional specimens examined:

COSTA RICA: PROV. HEREDIA: ca. 7 km. n. of Vara Blanca de Sarapiquí, alt. 5000 ft., 29 Dec. 1970, R. R. Smith 2563 (FLAS).



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Heliconia secunda R.R. Smith sp. nov.

Plant ca. 4-5 m. tall; inflorescence pendent; branch-bracts red, rachis red; branch-bracts extending out from rachis along same plane; flowers yellow; along steep slope near road and waterfall; ca. 7 km. n. of Vara Blanca de Sarapiquí, alt. 5,000 ft.,

Prov. Heredia, COSTA RICA

Coll. R.R. Smith, J. Beckner, & J. Hall 2206  
det. R.R.S. 4 April 1968

Fig. 3. Holotype of H. secunda (FLAS).

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## LITERATURE CITED

Smith, R. R. 1968. A taxonomic Revision of the Genus Heliconia in Middle America. Ph.D. Thesis. University of Florida. Gainesville, Fla.